REMARKS

Reconsideration of the above-identified patent application in view of the remarks following is respectfully requested. Claims 1-18 are pending in the application. Claims 10-18 have been previously withdrawn. Claim 1-4 and 6-8 have been rejected and claims 5 and 9 have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. Applicant is grateful for the conditional allowance of claims 5 and 9. The rejection of claims 1-4 and 6-8 is respectfully traversed.

Drawings Objections

FIGS. 1-3 have been objected to as missing "Prior Art" markings. Appropriate correction is made.

§ 102 Rejections

Claims 1 and 6-8 were rejected under 35 U.S.C. 102(e) as being anticipated by Kramer (6,546,014). The rejection is respectfully traversed.

Kramer discloses Dynamic Bandwidth Allocation (DBA) methods in an optical access network, specifically in an Ethernet Passive Optical Networks (EPON). Kramer deals with elements from bandwidth management including GRANT messages granted to allocate time division multiplexing (TDM) allocations between ONUs and REQUEST messages (402 in FIG. 4) containing the amount of data in a ONU FIFO to be considered in the next bandwidth allocation of the ONU. He focuses on the notion of a single entity and a single bandwidth (BW) allocated entity contained in each ONU. For instance, in his FIGS. 1-8, there is a single end terminal at each ONU and the allocation of the BW is according to each ONU. Each ONU has a single entity towards the PON network and this is the fundamental atomic unit in the network. There is no ability for a new entity to respond during the grant of a specific ONU.

Kramer does not deal with registration and/or an auto discovery protocol of the ONUs in the network at all. The word "Registration" does not appear at all in his description. REQUEST 402 in his FIG. 4 is not a registration request (REGISTER_REQ) message and cannot be used for this purpose. A REQUEST message in Kramer serves as a control message for reporting the ONU FIFO location in the specific allocated grant so that the OLT will know how to allocate the next grant to this ONU.

> *Upon receiving the GRANT message 304, the ONU-1 sends an OLT control message 402 to the OLT 204, as illustrated in FIG. 4. Such a message will be referred to herein as a REQUEST message. Similar to a GRANT message, a REQUEST message also includes an NID field 404 and a WS field 406. The WS field includes the current bytes of data waiting in the buffer of a particular ONU when the REQUEST message was generated. Thus, the REQUEST message 402 will indicate that 4300 bytes of data are currently waiting in the buffer 212 of the ONU-1. The REQUEST message tells the OLT how many bytes of data are in the buffer of the ONU-1 at the moment when the REQUEST message was generated. The ONU-1 also sends data 408 stored in the buffer of the ONU-1 up to the size of the granted window. In this example, the ONU-1 sends 1200 bytes of the data from the buffer of the ONU-1.*

In sharp contrast, the present invention deals with a method and a tool to auto-discovery and registration of multiple entities to an ONU according to respective grants, as described in the specification paragraph [0039]:

> *A second embodiment of the multiple entity ONU registration method of the present invention is shown in FIG. 4. In this embodiment, the ONU can register an additional entity on top of the existing one(s). While the process described in FIG. 4 relates to a single additional entity, it is clear that the process can be repeated several times to add multiple entities. The ONU uses one of its granting opportunities to transmit a **REGISTER-REQ** message with the ONUS own MAC address. The OLT receives this message in step 400. In step 402, the OLT checks whether the **REGISTER-REQ** message was received during a discovery grant opportunity (or simply "discovery grant"), or during a normal ("non-discovery") grant opportunity (or simply "normal grant"). If the message was received during normal grant ("No"), then the OLT concludes that the ONU is already registered, and that the ONU wants to add an additional entity. The registration process of an additional entity for the same ONU by the OLT, based on the standard process depicted in FIG. 2, thus continues in step 404. If the **REGISTER-REQ** message was received during a discovery grant ("Yes"), then the OLT assumes this is the first entity registered for this*

> *ONU. Consequently, in step 406 the OLT deletes all the entities previously registered for this ONU, because no other entities should be registered if this is the first registration. The OLT then continues the registration process in step 408.*

As indicated, a REGISTER-REQ message of the present invention is unequivocally different from, and has nothing in common with a REQUEST message in Kramer, as would be clear to one skilled in the art.

In summary, Applicant respectfully submits that the features recited in claims 1 and 6 as well as the notion of multiple entities, registration of multiple entities belonging to a specific ONU and checking that a registration request (REGISTER_REQ) message received from the specific ONU belongs to a certain grant do not exist in Kramer at all. Therefore, Kramer cannot and does not anticipate any claim that recites these features. Specifically, Kramer cannot and does not anticipate independent claims 1 and 6 and any claim dependent therefrom.

§ 103 Rejections

Claims 2-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer as applied to claim 1 above, and further in view of Sutherland (US 2003/0177216A1). The rejection is respectfully traversed.

Sutherland describes isolation of malfunction or faulty nodes and describe in the process isolation of an ONU entity which is malfunctioning. The ONU is the basic atomic unit referenced in this application, as can be seen from FIGS. 1-11, both in the registration process, described in his figures 3-6 and in the isolation process described in his FIGS. 9-11. Applicant respectfully submits that, similarly to Kramer, the features and notion of multiple entities, registration of multiple entities belonging to a specific ONU and checking that a registration request message received from the specific ONU belongs to a certain grant do not exist in Sutherland at all.

MPEP 2143.03 makes clear that: "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." The Examiner has

failed to meet this burden. Although the recent Supreme Court decision in KSR International Co. v. Teleflex Inc. et al, 550 U.S. __ (2007) has relaxed the "TSM" test for combining references, it made no change in the requirement that all claim limitations must be taught or suggested by the prior art. The Supreme Court noted with approval In re Kahn, 441 F. 3d 977, 988 (CA Fed. 2006), which stated that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

Neither Kramer nor Sutherland actually teach or suggest all the limitations of claims 2-4, Applicant respectfully submits that the Examiner has failed even to state a case of prima facie obviousness re. these claims.

In view of the remarks above it is respectfully submitted that claims 1-9 are now in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

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